

## ERNEST ORLANDO LAWRENCE BERKELEY NATIONAL LABORATORY

Environmental Energy Technologies Division Energy Analysis Program 1 Cyclotron Road, MS 90-4000 Berkeley, CA 94720

## CALIFORNIA RETAIL GREEN POWER PRODUCTS

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Ryan Wiser, Lawrence Berkeley National Laboratory (510) 486-5474, rhwiser@lbl.gov,

The following table provides an overview of the status of the retail green power products that are currently offered to California residential and small commercial customers in restructured electric markets. The table therefore excludes those green power products offered by SMUD to their retail customers. The table also excludes customer-sited renewable products, including products offered in the grid-tied rooftop PV market. In late April, Enron Energy Services announced its decision to withdraw their residential green and non-green products from the marketplace. Enron's discontinued green product is included in this table because some residential consumers had signed up for the product before it was discontinued. PG&EES and Edison Source, both of whose products are included in the table, are also now rumored to be reconsidering their residential green power product lines, though no official announcements have yet been made. Other smaller companies not listed in the table, including PowerSource, PowerCom Energy & Communications Access, and others, are also becoming active in the green power market (many of these smaller companies are expected to use agent-based marketing tactics rather than more traditional mass-marketing approaches). In addition to the products listed in the table, aggregators are also emerging, some of which are or will sell green products. Finally, there are also a number of companies that are targeting the wholesale market and large customer market for green electricity, including PacifiCorp, Dynegy, Bonneville Power Administration, the Environmental Resources Trust, Enron, and the Automated Power Exchange.

The primary sources for the table include: (1) interviews with each of the power marketers; and (2) review of direct mail, print ads, and web sites of the various companies. "Renewables" are defined in California law as solar, wind, biomass (including landfill gas and MSW), geothermal, and small hydro (less than or equal to 30 MW).

See: http://eetd.lbl.gov/EA/EMP/CAgrprod.html for periodic updates to this table

Company	Product Name	Product Resource Mix	Actual Pricing Structure	Term of Agreement, Billing, Price Volatility	Estimated Price for Avg. Residential Customer*	Green-e Certified?
Green Mountain Energy Resources	Wind for the Future	<ul> <li>At least 75% renewables (including 10% new wind), no more than 25% large hydro</li> <li>Before wind comes on line, 75% renewables comes from small hydro, biomass, and geothermal</li> <li>2 turbines announced; will supply only future use</li> <li>One wind turbine for every 3,800 customers, limited to 3 turbines</li> </ul>	• CA PX price plus 2.1¢/kWh	<ul> <li>3 year contract</li> <li>\$25 early termination fee</li> <li>Dual billing</li> <li>Pricing fixed for 3 years</li> </ul>	2.1¢/kWh premium over 1999 utility rates     19.0% increase over 1999 utility rates     \$11.6/month premium	yes
Green Mountain Energy Resources	75% Renewable Product	<ul> <li>At least 75% renewables, no more than 25% large hydro</li> <li>75% renewables comes from small hydro, biomass, and geothermal</li> </ul>	• CA PX price plus 1.2¢/kWh	<ul><li> 1 year term of agreement</li><li> No early termination fee</li><li> Dual billing</li><li> Pricing fixed for 1 year</li></ul>	1.2¢/kWh premium over 1999 utility rates     10.9% increase over 1999 utility rates     \$6.6/month premium	yes
Green Mountain Energy Resources	Water Power	• 100% large hydro	• CA PX price plus 0.975¢/kWh	<ul><li> 1 year term of agreement</li><li> No early termination fee</li><li> Dual billing</li><li> Pricing fixed for 1 year</li></ul>	0.975¢/kWh premium over 1999 utility rates     8.8% increase over 1999 utility rates     \$5.4/month premium	no
Edison Source	EarthSource 50	50% renewables, 50% California system power     Not committing to supply renewables portion from specific resources, but will include small hydro and probably a mix of other renewable resources	Same price as 1997 utility tariffs in baseline usage     2.5% higher price than 1997 utility tariffs for electric use that exceeds baseline	<ul> <li>No contract</li> <li>No early termination fee</li> <li>Consolidated ESP billing</li> <li>Pricing fixed for 1998</li> </ul>	1.36¢/kWh premium over 1999 utility rates     12.3% increase over 1999 utility rates     \$7.5/month premium	yes
Edison Source	EarthSource 100	100% renewables     Not committing to supply renewables from specific resources, but will include small hydro and probably a mix of other renewable resources	• 15% higher price than 1997 utility tariffs	<ul> <li>No contract</li> <li>No early termination fee</li> <li>Consolidated ESP billing</li> <li>Pricing fixed for 1998</li> </ul>	3.07¢/kWh premium over 1999 utility rates     27.8% increase over 1999 utility rates     \$16.9/month premium	yes
Edison Source	EarthSource 2000	100% renewables (including 10% new wind)     When 3,000 customers subscribe, 10% of use from time of subscription will be provided from new wind     Before wind comes on line, renewables will come from small hydro, biomass, and/or geothermal	• 15% higher price than 1997 utility tariffs plus 0.4¢/kWh	No contract     No early termination fee     Consolidated ESP billing     Pricing fixed for 1998	• 3.47¢/kWh premium over 1999 utility rates • 31.4% increase over 1999 utility rates • \$19.1/month premium	yes
PG&E Energy Services	Clean Choice 20	<ul> <li>20% renewables (including 5% new renewables), 80% large hydro</li> <li>New renewables expected 3/99-9/99, but will supply use from time of subscription</li> <li>Not committing to supply existing or new renewables from specific types of renewable resources</li> </ul>	• \$2.95/month fixed fee • CA PX price plus 0.171¢/kWh	<ul> <li>No contract</li> <li>No early termination fee</li> <li>Consolidated ESP billing</li> <li>Pricing fixed until 6/2000</li> </ul>	0.71¢/kWh premium over 1999 utility rates     6.4% increase over 1999 utility rates     \$3.9/month premium	no

Company	Product Name	Product Resource Mix	Actual Pricing Structure	Term of Agreement, Billing, Price Volatility	Estimated Price for Avg. Residential Customer*	Green-e Certified?
PG&E Energy Services	Clean Choice 50	<ul> <li>50% renewables (including 12.5% new renewables), 50% large hydro</li> <li>New renewables expected 3/99-9/99, but will supply use from time of subscription</li> <li>Not committing to supply existing or new renewables from specific types of renewable resources</li> </ul>	• \$2.95/month fixed fee • CA PX price plus 1.089¢/kWh	<ul> <li>No contract</li> <li>No early termination fee</li> <li>Consolidated ESP billing</li> <li>Pricing fixed until 6/2000</li> </ul>	1.63¢/kWh premium over 1999 utility rates     14.7% increase over 1999 utility rates     \$8.9/month premium	yes
PG&E Energy Services	Clean Choice 100	<ul> <li>100% renewables (including 25% new renewables)</li> <li>New renewables expected 3/99-9/99, but will supply use from time of subscription</li> <li>Not committing to supply existing or new renewables from specific types of renewable resources</li> </ul>	• \$2.95/month fixed fee • CA PX price plus 1.754¢/kWh	<ul> <li>No contract</li> <li>No early termination fee</li> <li>Consolidated ESP billing</li> <li>Pricing fixed until 6/2000</li> </ul>	2.29¢/kWh premium over 1999 utility rates     20.7% increase over 1999 utility rates     \$12.6/month premium	yes
cleen 'n green	green 100	100% in-state renewables (including 20% new renewables)     New renewables begins supplying power in 1999     Not committing to supply renewables from specific resources	• 17.8¢/day fixed fee • CA PX price plus 1.0¢/kWh	No contract     No early termination fee     Consolidated UDC billing	1.98¢/kWh premium over 1999 utility rates     18.0% increase over 1999 utility rates     \$10.9/month premium	no
cleen 'n green	green 50	<ul> <li>50% in-state renewables (including 10% new renewables), 50% in-state large hydro and natural gas</li> <li>New renewables begins supplying power in 1999</li> <li>Not committing to supply renewables from specific resources</li> <li>Non-renewables come primarily from large hydro but also includes natural gas</li> </ul>	• 17.8¢/day fixed fee • CA PX price	No contract     No early termination fee     Consolidated UDC billing	0.98¢/kWh premium over 1999 utility rates     8.9% increase over 1999 utility rates     \$5.4/month premium	no
Common- wealth Energy Corporation	GreenSmart	100% in-state renewables     Renewables initially come from geothermal and biomass	• 5% off the CA PX price	No contract     No early termination fee     Consolidated UDC billing     Price not fixed	0.12¢/kWh discount off 1999 utility rates     1.1% decrease from 1999 utility rates     \$0.66/month discount	yes
Keystone Energy Services	EarthChoice 100	100% in-state renewables     Not committing to supply renewables from specific resources	• \$3.95/month fixed fee • CA PX price plus 1.74¢/kWh	<ul> <li>1 year term of agreement</li> <li>No early termination fee</li> <li>Consolidated UDC billing</li> <li>Pricing fixed for length of agreement</li> </ul>	2.46¢/kWh premium over 1999 utility rates     22.3% increase over 1999 utility rates     \$13.5/month premium	yes

Company	Product Name	Product Resource Mix	Actual Pricing Structure	Term of Agreement, Billing, Price Volatility	Estimated Price for Avg. Residential Customer*	Green-e Certified?
Keystone Energy Services	EarthChoice 50 offered only to small commercial customers	<ul> <li>50% in-state renewables, 50% in-state non-renewable power</li> <li>Not committing to supply renewables from specific resources</li> <li>Non-renewables comes primarily from large hydro</li> </ul>	• \$3.95/month fixed fee • CA PX price plus 0.99¢/kWh	1 year term of agreement     No early termination fee     Consolidated UDC billing     Pricing fixed for length of agreement	1.71¢/kWh premium over 1999 utility rates     15.6% increase over 1999 utility rates     \$9.4/month premium	yes
Enron Energy Services	Earth Smart Power product discontinued	<ul> <li>50% renewables, 50% large hydro and natural gas</li> <li>Early in 1998, 50% renewables was estimated to come from 49% geothermal and 1% biomass</li> <li>Expected new wind to account for 25% of total product content over time</li> <li>Existing customers will be served with 100% renewable energy in 1999</li> </ul>	• 1¢/kWh more than 1998 utility tariffs	<ul> <li>No contract</li> <li>No early termination fee</li> <li>Consolidated ESP billing</li> <li>Pricing fixed for 2 years</li> </ul>	1.0¢/kWh premium over 1999 utility rates     9.06% increase over 1999 utility rates     \$5.5/month premium	yes

<sup>\*</sup> The following assumptions were used make these estimated price calculations: (1) PG&E 1997 rates of 11.589 cents/kWh (baseline, Tier I) and 13.321 cents/kWh (Tier II); (2) 1999 PG&E rates are 10% lower than 1997 rates; (3) average residential electric use = 6,600 kWh/year; (4) baseline (Tier I) quantities apply up to 11 kWh/day year-round; (5) average PX price of 2.4 cents/kWh. Actual prices and premiums may vary with total electricity use, PX price, utility service territory, county, etc.